

- Moore, W. E. *Economic Demography of Eastern and Southern Europe*. 1945. Pp. 299.
- Parkinson, J. *Rheumatic Fever and Heart Disease*. 1945. Pp. 32. Presented by Dr. C. P. Blacker.
- Registrar-General's *Statistical Review of England and Wales for the Year 1941*. Tables, Pt. I. Medical. 1945. Pp. 322.
- Registrar-General for Scotland. *89th Annual Report, 1943*. 1946. Pp. 143.
- Schrödinger, E. *What is Life?* 1945. Pp. 91.
- Straus, N. *The Seven Myths of Housing*. 1945. Pp. 314.
- Walker, K., and Strauss, E. B. *Sexual Disorders in the Male*. 1946. Pp. 249.
- Warner, W. Ll., Havinghurst, R. J., and Loeb, M. *Who Shall Be Educated?* 1946. Pp. 180.

- White, M. J. D. *Animal Cytology and Evolution*. 1945. Pp. 375.
- Young, K. *A Handbook of Social Psychology*. 1946. Pp. 578.

### Elections to the Society

THE following have been elected Fellows (starred) and Members of the Society during the past quarter :

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|--------------------------|------------------|
| *J. L. Burn, Esq., M.D., | Dr. Pamela Laws  |
| D.Hy., D.P.H.            | The Rev. Kenneth |
| The Hon. P. Kindersley   | Parkinson, M.A., |
| Robert Alan Laws, Esq.,  | A.C.I.S.         |
| A.C.A.                   | Mrs. A. Smith    |

## REVIEWS OF BOOKS

### GENETICS

- Lea, D. E.** *Actions of Radiations on Living Cells*. Cambridge, 1946. Cambridge University Press. Pp. xii + 402. Price 21s.

Books and reviews on radiation genetics have so far been mainly presented by geneticists. But this field has now become so quantitative in its results that its physical aspects can no longer be mastered by the geneticist alone. It is therefore to be welcomed that a physicist with considerable experience in this field has now presented the research worker with the physical background necessary for the critical evaluation of the data. In an opening chapter the main physical properties of gamma rays, X-rays, alpha rays, neutrons and ultra-violet light are described and the mechanisms by which they dissipate their energy on passing through matter are dealt with quantitatively. This is followed by a consideration of the chemical effects of ionizing radiations and the possible ways in which they may affect the living cell. The "traget theory" next discussed culminates in the estimation of the size of the gene. Applying similar principles to the inactivation of viruses by ionizing

radiations, it appears likely that the smaller crystallizable viruses are "naked genes." The inactivation properties of larger viruses (vaccinia virus, etc.) suggest a more complex structure; not the whole of the virus particle seems to be radiation-sensitive, and its "nucleus" may contain roughly 100 genes, while data on the killing of bacteria suggest something like 250 genes for this group of organisms. A detailed discussion of the production of structural changes of chromosomes and the mechanism of their induction by radiations is also given. This is only a selection of the more important subjects dealt with in this book, which is concluded by a bibliography of 20 pages and by adequate indices. The book is authoritative and readable throughout and should be of considerable value to research workers in this field, both biologists and physicists.

H. G. HILL.

- Darlington, C. D., and Ammal, E. K. Janaki.** *Chromosome Atlas of Cultivated Plants*. London, 1945. Allen & Unwin. Pp. 397. Price 12s. 6d.

"THERE are two reasons why botanical studies of all kinds have been concentrated on cultivated plants. The first is the obvious

one that we depend on them for our existence. The second is the less obvious one, though it was clear to Darwin and Mendel, that they provide the most accurate and most extensive information on those principles of heredity and variation which control evolution in all plants and in animals as well."

The classical taxonomy of plants based on purely morphological characters and dried museum specimens has suffered an eclipse as it failed to take account of the genetic aspects of speciation. Divergence of breeding groups takes place by processes which do not necessarily find their expression in those structural changes by which the classical taxonomist is guided. Any real understanding of the evolutionary relationships of plants, as they have developed in the past, and of their genetic potentialities which may be exploited in the future, thus depends on a thorough and detailed knowledge of the evolutionary pattern of each individual group. Of the data which make up this pattern the study of chromosome numbers in species, genera and higher taxonomical groups forms one of the most important building stones. A survey of the kind presented by Drs. Darlington and Janaki Ammal, with its detailed information about some 10,000 cultivated plants and their wild relations, is thus of fundamental importance for the evolutionary biologist and the practical plant breeder alike.

The first 44 pages of this book are devoted to a general discussion of the main implications of studies of chromosome numbers and an explanation of the arrangement of the data. These comprise the bulk of the book (310 pp.), and give the families of angiosperms following the order used in Hutchinson's *Families of Flowering Plants*, while the gymnosperms mainly follow the authors' own order. In the case of some large families, such as the cruciferae, papilionaceae and some others, a synopsis of the tribes with their respective basic chromosome numbers is given first. Genera within families are generally given in ascending order of their basic numbers, and the genera themselves are similarly subdivided where necessary. For each species the scientific and, where

there is one, the popular or vernacular name is given. This is followed by the somatic or "diploid" chromosome number and the name of the author(s) who made the count (the list of references includes approximately 1,500 titles). Then follows in each case a classification of the use of the particular plant under one or several of thirty headings, and finally the geographical distribution of the plant mainly taken from the *Index Kewensis*. In addition to the 10,000 or so species whose chromosome numbers are listed, about 1,000 species are included whose chromosome numbers are not yet known; the attention of future investigators is thus drawn to the main gaps in our knowledge. The work is not only a critical compilation of the literature, but contains some seventy-five unpublished counts, mainly due to Dr. Darlington's colleagues at the John Innes Horticultural Institution, and about 150 unpublished counts by the junior author.

A book of this general usefulness as a source of information is assured of a wide circulation. It is difficult to see how any serious plant breeder, botanist or geneticist can afford to be without a copy.

H. GRÜNEBERG.

## CRIMINAL LAW

**Radzinowicz, L., and Turner, J. W. C.** (Editors). *The Modern Approach to Criminal Law*. By various authors. London, 1945. Macmillan. Pp. ix. + 511. Price 21s.

THE title of this book is somewhat misleading. Two-fifths of it are devoted to a collection of articles by well-known lawyers, but they are not particularly modern, that by the late Professor Kenny on Lombroso being thirty-five years old, they do not indicate any particular point of view, and they are largely concerned with purely legal questions. The remainder of the book is the original work of Mr. Turner of Cambridge and Dr. Radzinowicz of Geneva, Cracow and Rome Universities, and deals not only with law but with "criminal science," of which law is only one branch, though it is law alone which makes